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Research Article

An Epidemiological Study on *Mutrakricchra* W.S.R. to Etiological Consideration

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ABSTRACT

Ayurveda not only offers curative approaches but it also highlighted various health problems of human life. The basic principle of Ayurveda deals around towards the maintenance of optimum health status. It is always advisable that the ancient principle should always be correlated with the newer theories of medical science to acquire desired healthcare system. Novel inventions and ideas need to be utilized to fulfill the gap between traditional knowledge and current technologies. Considering importance of Ayurveda science present article described *Mutrakricchra* *Nidana* as per Ayurveda perspectives.

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INTRODUCTION

The ancient Ayurveda texts encompass exhaustive information related to the *Mutrakricchra Nidana*. It is believed that identification of the causative factors of diseases help one to avoid indulgence in them and by this way prevalence of disease can be prevented. The systemic study of any disease requires preliminary investigation on epidemiology [1-5]. Thus epidemiological study is one of the important aspects while investigating diseases in exhaustive manner. Present article described an epidemiological study on "*Mutrakricchra*" which is the preceding disease occurred when *Mutravaha Srotas* gets injured.

Aims and Objectives:

To establish definite diagnostic criteria for the identification of *Mutrakricchra* as per current scenario.

MATERIALS AND METHODS:

Questionnaire related to the dietary habits, occupation, daily routine, exercise habits, alcoholic dependence and sexual habits of patients was prepared. Trauma on urinary tract, urgency of defecation and any abnormalities related to the excretory system also asked from patients.

Study Design:

Descriptive – cross sectional study (that involves following procedures):

1. Selection of population for study
2. Disease (*Mutrakricchra*) and its diagnosis
3. Description of disease by time, place and person
4. Measurement of disease
5. Comparing with known indices
6. Formulation of an etiological hypothesis.

1) Selection of population for study

The study was conducted at OPD and IPD, Arogyashala, N.I.A., Jaipur (Raj.). Patients were registered in OPD/IPD. A questionnaire was prepared about general details of the patients and their disease conditions based on Ayurvedic and Modern literature.

2) Disease (*Mutrakricchra*) and its diagnosis

First disease was identified based on the clinical symptoms like; burning micturition, scanty urine, urgency and painful micturition etc. Presence of pus cells, cast cell, epithelial cells, crystals and bacteria also observed in urine for disease diagnosis.

Table 1 described scoring pattern of disease symptoms utilized for the diagnosis of specific types of *Mutrakricchra*. While **Table 2** described subjective parameters used as assessment criteria for the diagnosis of disease.

Table 1: Diagnostic consideration for specific *Mutrakricha*:

| S. No. | Types of <i>Mutrakricha</i> | Lakshan | Point |
|--------|--|---|-------|
| 1 | <i>Vataja Mutrakricha</i> | <i>Alpamalpam mutra pravritti</i> | 1 |
| | | <i>Muhur muhur mutra pravritti</i> | 1 |
| | | <i>Tivraruja is Vakshana, Basti and Medra</i> | 1 |
| | | <i>Samutpeedya muska, mehana, basti</i> | 1 |
| 2 | <i>Pittaja Mutrakriccha</i> | <i>Haridra/Rakta/Pita mutra</i> | 1 |
| | | <i>Ushna mutra</i> | 1 |
| | | <i>Saruja</i> | 1 |
| | | <i>Sadaha is Muska and Basti</i> | 1 |
| 3 | <i>Kaphaja Mutrakriccha</i> | <i>Snigdha/Picchila mutra/Anushna mutra</i> | 1 |
| | | <i>Sweta mutra</i> | 1 |
| | | <i>Guruta/Sopha is Basti and Mehna</i> | 1 |
| | | <i>Romanch</i> | 1 |
| 4 | <i>Sannipataja mutrakriccha</i> | <i>Nanavarna</i> | 1 |
| | | <i>Daha/Sita/Ruja</i> | 1 |
| | | <i>Muhur Mutrapravriti</i> | 1 |
| 5 | <i>Ashmarija Mutrakriccha</i> | <i>Sarudhira mutra</i> | 1 |
| | | <i>Visirna dharam</i> | 1 |
| | | <i>Sharkarayuktamutra</i> | 1 |
| | | <i>Vedna in Sevani/Mehan/Basti</i> | 1 |
| 6 | <i>Sharkaraja Mutrakriccha</i> | <i>Kukshi Shula/Hritapida</i> | 1 |
| | | <i>Agnimandya</i> | 1 |
| | | <i>Kampa</i> | 1 |
| | | <i>Vedana Samana after Mutravega</i> | 1 |
| 7 | <i>Abhighataja Mutrakriccha/Kshataja</i> | <i>Abhighata</i> | 1 |
| | | <i>Mutrasanga</i> | 1 |
| | | <i>Raktapravritti</i> | 1 |
| | | <i>Vedena</i> | 1 |
| 8 | <i>Shakritaja Mutrakriccha</i> | <i>Adhamana</i> | 1 |
| | | <i>Shula</i> | 1 |
| | | <i>Mutrasanga</i> | 1 |
| 9 | <i>Shukraja Mutrakriccha</i> | <i>Vedana in Vankshana/mehana/basti</i> | 1 |
| | | <i>Shukramutra Shopha in mehana</i> | 1 |
| | | | 1 |

Table 2: Subjective parameters and their grading pattern:

| S. No. | Subjective parameters | Grade | | | | |
|--------|-----------------------|--------|---|---|--|--|
| | | 0 | 1 | 2 | 3 | 4 |
| 1 | Burning Micturition | No | Occasional | Mild | Moderate | Severe |
| 2 | Pain | No | Occasional | Mild | Moderate | Severe |
| 3 | Urgency | No | Urgency but control | Mild | Moderate | Intense |
| 4 | Frequency | Normal | Increased frequency but not interfere the normal routine work | Increased frequency to the level when patient's routine work is less interrupted. | Increased frequency when patient's routine work is moderately interrupted. | Increased frequency up to the level of tiredness |
| 5 | Hot urine score | No | Occasionally | Mild | Moderate | Severe |
| 6 | Tenderness score | No | Mild (without any response on pressure) | Winching of face on pressure | Winching of face & withdrawal of affected part on pressure | Resisting examination |
| 7 | Urethral discharge | No | Occasionally | Mild | Moderate | Severe |
| 8 | Vaginal discharge | No | Occasionally | Mild | Moderate | Severe |
| 9 | Fever | Normal | 98.6 °F - 99.6°F | 99.6°F - 100.6°F | 100.6°F - 101.6°F | > 101.6 °F |

3) Description of disease by time, place and person

The occurrence of disease by time, place and person were also studied on the basis of proforma and questionnaire filled with exhaustive investigation.

4) Measurement of disease

It is mandatory to have a clear picture of the amount of "Disease load" in the population and for this purpose measurement of disease was done by cross sectional study.

5) Comparing with known indices

This step involves comparisons between the subgroups of the same population with their *Nidana*.

6) Formulation of an etiological hypothesis

Hypothesis related to the disease etiology was formulated on the basis of observations made during study and inference of results obtained from study data.

OBSERVATIONS

The participants, who had the problem of pain, burning micturition and frequency etc., were interviewed at Arogyashala, N.I.A., Jaipur (Raj.) and following observation were established:

- Majority (25%) belonged to the age range (20-30 yrs), 61% were females, 79% were married, 68% from the middle class, 38% participants were housewife followed by 22% in service class and 31% were illiterate.
- Maximum participants (60%) were consumed *Ubhayahara* (mixed diet).
- Vyasana* wise distribution shows that majority of participants had the habit of chewing tobacco (14%) while 7% were addicted to smoking and the 3% participants were found to be alcoholic.

Distribution of the participants according to prevalence of *Nidana* in *Mutrakricchra*.

Ajirna was observed as most common causative factor (50%), followed by *Sevana* of *Katu*, *Amla* and *Lavana Rasa* (34%) and *Tikshana Ausadha* (27%) while *Ati vyayama* and *Ativyavaya* were observed as causative factors in 10% and 5% patient respectively. **Table 3** described common causative factors of specific types of *Mutrakricchra* revealed by study data.

Table 3: Types of *Mutrakricchra* according to *Nidana*

| S. No. | <i>Nidana</i> | Types of <i>Mutrakricchra</i> | % of prevalence |
|--------|---|---|----------------------------------|
| 1 | <i>Ajirna</i> | <i>Vataja Pittaja</i> <i>Sannipataja</i> <i>Shakritaja</i> | 18.00 44.00 06.00 32.00 |
| 2 | <i>Tikshna aushadha</i> | <i>Vataja</i> <i>Pittaja</i> <i>Shakritaja</i> | 22.00 60.00 18.00 |
| 3 | <i>Katu, Amla, Lavana rasa</i> <i>sevana Vataja</i> | <i>Vataja</i> <i>Pittaja Sannipataja</i> <i>Shakritaja</i> | 09.00 65.00 03.00 23.00 |
| 4 | <i>Anupa mamsa</i> | <i>Pittaja</i> <i>Shakritaja</i> | 58.00 42.00 |
| 5 | <i>Vegadharana</i> | <i>Vataja</i> <i>Pittaja</i> <i>Sannipataja</i> <i>Shakritaja</i> | 12.00 47.00 06.00 35.00 |
| 6 | <i>Nitya drutapristhayanata</i> | <i>Vataja</i> <i>Pittaja</i> <i>Sannipataja</i> <i>Shakritaja</i> | 31.00 38.00 08.00 23.00 |
| 7 | <i>Adhyasana</i> | <i>Pittaja</i> <i>Sannipataja</i> | 50.00 50.00 |
| 8 | <i>Madya</i> | <i>Pittaja</i> | 100.00 |
| 9 | <i>Ativyayama</i> | <i>Vataja</i> <i>Pittaja</i> <i>Shakritaja</i> | 30.00 60.00 10.00 |
| 10 | <i>Ativyavaya</i> | <i>Pittaja</i> | 100.00 |
| 11 | <i>Bhaya & Abhyantara</i> <i>shalaya / Abhighata</i> | <i>Vataja</i> <i>Pittaja</i> <i>Sannipataja</i> <i>Abhighataja</i> | 14.00 29.00 14.00 43.00 |
| 12 | <i>Sharkara, Asmari</i> | <i>Pittaja</i> <i>Sharkaraja</i> <i>Asmarija</i> | 29.00 57.00 14.00 |

Distribution of disease in study population based on clinical symptoms:

Present study showed that the maximum participants (93%) possessed burning micturition while urgency and pain was observed in 71% and 55% patients respectively. These features were predominant in *Pittaja Mutrakricchra*. Most of the patients (50%) were having sterile urine culture no organisms were found in urine culture while 29% were suffered with *E. coli* infection. The result of urine test

revealed that 78% participants possess transparent urine. The pH of urine was found between ranges from 5 to 6 in 52% participants. Majority of cases had found (68%) is urinary specific gravity between 1.020-1.030. Absence of albumin in urine was observed in 88% patients. Most of the participants (70%) had pus cells in their urine while most of the patient possesses acidic and concentrated urine. The percentage of other clinical symptoms of disease observed in study population depicted in **Figure 1**.

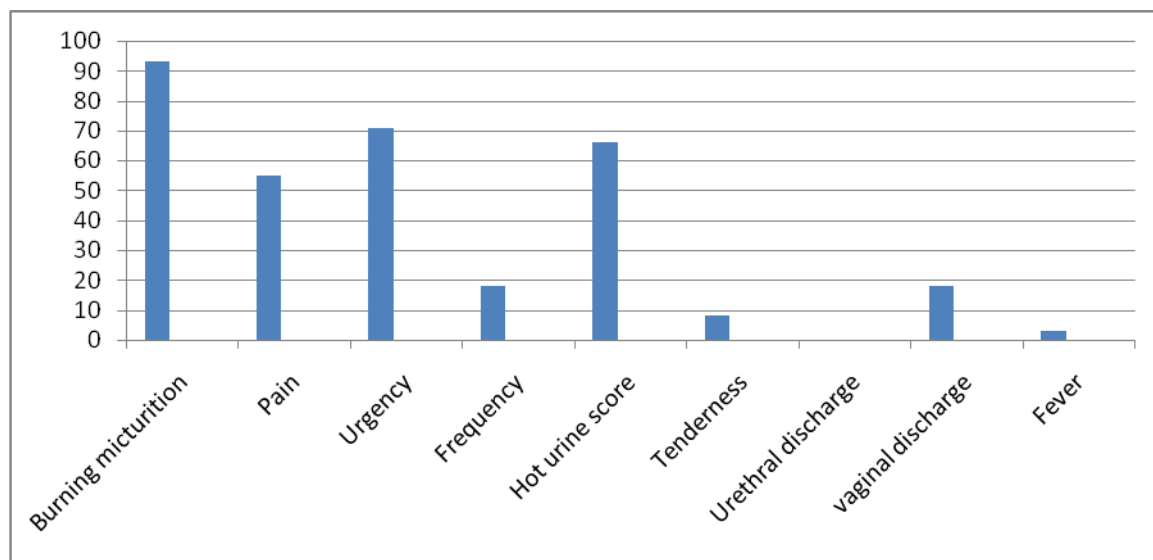


Figure 1: Distribution based on score of all morbidity features.

Discussion on Epidemiological (cross sectional) study of *Mutrakricchra*

The increasing prevalence in the youth might be attributed to changes in various metabolic risk factors, due to modern life style especially consumption of unwholesome diet and behavior. These age groups belong to *Madhyama Ayu* when *Pitta* is predominant. *Charaka* has quoted that the age group similar to *Dosha Prakopa* is a trigger factor for causation of disease [1].

Data revealed high prevalence of *Mutrakricchra* in female shows that women are more prone to disease may be due to the chances of infection during child birth and also during menopause when immunity of the vaginal flora is reduced.

Present study showed that, maximum participants (38%) were housewives may be due to the factor that they have busy scheduled so could not take care of their own health. Poor dietary regimen and lack of personal hygiene can be considered as responsible factors of disease prevalence in housewives.

Study involved 31% illiterate patients and this high number confirms that unhygienic condition and lack of health awareness increases chances of disease in uneducated person.

88% participate were consumed tea and 12% were consumed coffee. Caffeine increases acidity of urine which irritates bladder and cause other symptom of IC and acute cystitis [2].

Present study showed maximum participant were addicted to tobacco while alcohol and smoking were considered as causative factor in least number of participants.

Study indicates that most of the participants were suffered from indigestion or impaired functioning of *Agni* that can lead severe *Mutranirmana*. It might be consequences of faulty unwholesome dietary habits of individual. The most of the *Nidana* of *Mutrakricchra* observed as consequences of bad dietary pattern.

Probable pathological contribution of observed *Nidana*:

Causative factors *Ajirna* is a state of indigestion of food, where the *Agni* get hampered that further produces *Sara* and *Kitta Bhaga* of inferior quality. *Acharya Charaka* has also mentioned that when *Ajirna* affects *Mutra* then urinary disease may occur [3].

Sevana of *Katu*, *Amla*, *Lavana Rasa* produces various effects on the body like; *Vatapitta Prakopa*, excessive thirst, *Shotha* and heat these all effect can precipitate disease symptoms. Spicy and acidic diets are irritants to the bladder [4].

Tikshna aushadha produces *Pitta Prakopa* with its *Ushna*, *Ruksha* and *Tikshna Guna* due to which bladder wall get irritated and urinary pH altered. It may also cause hyperhidrosis which leads acid base imbalance in the body and causes dysuria [5-8].

Conclusion

Mutrakricchra is a pathological condition occurs due to the specific etiological reason and sometimes may also associate with other diseases as a *Lakshana* like; *Pakvashayasta Vata*, *Shukrasamari* and *Mutranirodhajany Udavarta* etc. When *Mutravaha Srotas* is injured the *Mutrakricchra Chikitsa* treatment generally recommended. Thus it can be say that *Mutrakricchra* is a preceding disease. *Ajirna* was considered as common causative factor of disease. The findings of study

suggested that any type of problem in lower urinary tract like; frequency, urgency, burning micturation and pain, etc. can be included under *Mutrakricchra* disease. Dietary disturbances, life style burden with other causative factors can cause toxicity of urine or acidic urine or loss of local immunity of urinary tract.

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